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B-1, 10 M HUB 1.8 M REMOTE

REMOTE TO HUB

LINK BUDGET PARAMETER	UNITS	CLEAR SKY	U/L FADE	D/L FADE	U/L, D/L FADE	D/L OUTAGE FADE
PA POWER OUT / CARRIER	dBW	6.3	6.3	6.3	6.3	6.3
U/L PWR CONTROL RANGE	dB	NA	NA	NA	NA	NA
MAX CARRIER PWR W/UFC	dBW	6.3	6.3	6.3	6.3	6.3
W/G LOSS	dB	0.1	0.1	0.1	0.1	0.1
ANTENNA GAIN	dB	38.9	38.9	38.9	38.9	38.9
MISPPOINTING LOSS	dB	0.5	0.5	0.5	0.5	0.5
EIRP TOWARDS SATELLITE	dBW	44.7	44.7	44.7	44.7	44.7
FREE SPACE LOSS	dB	199.2	199.2	199.2	199.2	199.2
U/L RAIN ATTENUATION :	dB	0.0	1.0	0.0	1.0	1.0
ISOTROPIC PWR AT SAT	dBW/M ²	-154.5	-155.5	-154.5	-155.5	-155.5
SATELLITE G/T	dB/K	-7.0	-7.0	-7.0	-7.0	-7.0
BOLTZMAN'S CONSTANT	dBW/K-Hz	-228.6	-228.6	-228.6	-228.6	-228.6
U/L C/KT	dB-Hz	67.1	66.1	67.1	66.1	66.1
SATELLITE GAIN	dB	-159.1	159.1	159.1	159.1	159.1
DOWNLINK EIRP	dBW	4.6	3.6	4.6	3.6	3.6
SATELLITE C/IM ₀	WATTS	2.9	2.3	2.9	2.3	2.3
	dB-Hz	58.6	57.6	58.6	57.6	57.6
FREE SPACE LOSS	dB	195.2	195.2	195.2	195.2	195.2
D/L RAIN ATTENUATION	dB	NA	NA	1.0	1.0	1.0
MISPPOINTING LOSS	dB	0.5	0.5	0.5	0.5	0.5
BOLTZMAN'S CONSTANT	dBW/K-Hz	-228.6	-228.6	-228.6	-228.6	-228.6
SYSTEM TEMPERATURE	K	135	135	179	179	179
G/T	dB/K	29.5	29.5	28.3	28.3	28.3
D/L C/KT	dB-Hz	67.0	66.0	64.8	63.8	63.8
C/KT REQUIRED	dB-Hz	56.5	56.5	56.5	56.5	56.5
C/KT AVAILABLE	dB-Hz	57.5	56.5	57.2	56.2	56.2
LINK MARGIN	dB	1.0	0.0	0.7	-0.3	-0.3
DOWNLINK EIRP MEASURED	dBW	4.6	3.6	4.6	3.6	3.6
AT REFERENCE STATION	WATTS	2.9	2.3	2.9	2.3	2.3
FCC PWR DENSITY LIMIT	dBW	-14.0	-14.0	-14.0	-14.0	-14.0
PER 4 KHz INTO FEED	dBW	-8.3	-8.3	-8.3	-8.3	-8.3
PWR DENSITY INTO FEED	dBW	-8.3	-8.3	-8.3	-8.3	-8.3
PER 4 KHz	dBW	-5.7	-5.7	-5.7	-5.7	-5.7
PWR DENSITY INTO FEED	dBW	-5.7	-5.7	-5.7	-5.7	-5.7
PER 4 KHz MARGIN						
FCC SAT EIRP PWR DNSTY	dBW	6.0	6.0	6.0	6.0	6.0
LIMIT PER 4 KHz	dBW	-9.9	-10.9	-9.9	-10.9	-10.9
SAT EIRP PWR DENSITY	dBW	-9.9	-10.9	-9.9	-10.9	-10.9
PER 4 KHz	dBW	15.9	16.9	15.9	16.9	16.9
SAT EIRP PWR DENSITY	dBW	15.9	16.9	15.9	16.9	16.9
PER 4 KHz MARGIN						

1.8M VSAT ANTENNA SPECIFICATIONS

MECHANICAL

Effective Aperture	2.4M Dia. (96.0 inch dia.)
Operating Frequency, Rx	3.7 - 4.2 GHz
Tx	5.925 - 6.425 GHz
Midband Gain, Rx	37.6 dBi at 3.95 GHz, Min.
Tx	41.6 dBi at 6.175 GHz, Min.
Polarization	Linear, (cross pol or co-pol), circular
Isolation Tx & Rx	> 70 dB
Sidelobe Envelope, Co-Pol (dBi)	
Mainbeam $\theta < 7^\circ$	29 - 25 Log θ dBi
$7^\circ < \theta < 9.2^\circ$	+0 dBi
$9.2^\circ < \theta < 48^\circ$	32 - 25 Log θ dBi
$48^\circ < \theta < 180^\circ$	- 10 dBi
Cross-Pol Response (On Axis)	30 dB below Co-pol
VSWR (Rx Tx)	1.3:1 Max
Transmit Interface	Type "N" Female
Receive Interface	CPR 229G
Antenna Noise Temperature (at output of OMT)	
at 10° elevation	40.4°K
at 20° elevation	27.3°K
at 30° elevation	22.8°K

